Collisions and Concussions: A Serendipitous Symmetry Among Youth Sports

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Abstract

COLLISIONS AND CONCUSSIONS: A SERENDIPITOUS SYMMETRY AMONG YOUTH SPORTS

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AIM OF ABSTRACT
For more than a decade traumatic brain injury (TBI) such as a concussion has been recognized as an important global public health issue (Cassidy et al., 2004; McCrory et al, 2013). Without appropriate education and risk management protocols, athletes participating in sports with inherent collisions may be exposed to unnecessary harm. Although the prevalence of concussions in young athletes has been identified as an issue which could lead to tragic results (Castillo, 2011), there has been a lack of information analyzing how the risks may be managed (McCrea, Hammeke, Olsen, Leo & Guskiewicz, 2004). The primary focus of this presentation is to discuss how sport organizations may manage the risks of severe health issues of young athletes, particularly involved in collision sports such as soccer, rugby and American football.

PRACTICE DESCRIPTION
According to Craton and Leslie (2013) problems exist internationally regarding concussion guidelines including a lack of diagnostic specificity and management strategies. In addition, uniform guidelines pertaining to post-concussion management involving young athletes do not exist (McCrory et al., 2013). Risk management strategies, especially proper

record keeping have been cited as being critically important in preventing athletes from suffering additional concussions. These additional concussions are termed “second impact syndrome” and may result in death (Rabadi & Jordan, 2001). As a result, risks involving concussions should be managed using the same treatment and return to play paradigm for all athletes, regardless of level of participation (McCrory et al., 2013). When a young athlete sustains a concussion it not only should it be documented, but this information should become part of a permanent medical file. This documented information involving the concussion history of the athlete will assist the sport medicine personnel in determining the appropriate protocol for return to play.

CONTEXT DESCRIPTION, ACTORS INVOLVED

A previous investigation noted that 300,000 young athletes suffer concussions each year in the United States (Whitmer, 2013). Durie and Munroe (2000) revealed that collisions resulting in injuries to the head accounted for 15 to 30% of all non-North American rugby injuries.The BBC reported concussions in Rugby Football Union (RFU) increased from 5.1 to 6.7 concussions per 1000 hours of play (BBC, 2014). The RFU itself stated amateur players sustained 1.2 concussions per 1000 hours while professional rugby players sustained concussions at the rate of 3.9 per 1000 hours (RFU, n.d.). Estimates of concussion rates in youth soccer ranged from 1.38 injuries per 1000 hours of play for boys to 1.80 for girls (Gessel, Fields, Collins, Dick & Comstock, 2007). Junge, Cheung, Edwards, and Dvorak (2004) found that rugby union football was significantly linked to higher rates of head injury than soccer. In contrast, a 2013 study in the Clinical Journal of Sport Medicine determined that head and neck injuries were relatively uncommon in European professional soccer (Nilsson, Hagglund, Ekstrand & Walden, 2013).

IMPLICATIONS AND LEARNING

Support from organizations such as the Federation Internationale de Football Association (FIFA), the International Olympic Commission (IOC), and the International Rugby Board (IRB) have endorsed the sharing of information regarding concussive injuries in youth athletics. Furthermore, according to the consensus statement from the 4th International Conference on Concussion in Sport, regardless whether an athlete participates in rugby, American football or European soccer many athletes, coaches, and parents do not recognize the symptoms of concussions (McCrory et al., 2013). Since concussive injuries are not being managed effectively and athletes and coaches are not properly educated the ability to treat or reduce the effects of concussive injury after the event is nominal at best. As such, the value of knowledge transfer as part of concussion education is becoming recognized as essential (McCrory et al., 2013). The implementation of knowledge-transfer models is one approach sport organizations can apply to calculate knowledge gaps. Additionally, such models provide a means to

recognize and cultivate educational strategies to facilitate decision making.
This presentation will assist in educating sport administrators about the importance of effectively managing the risk of concussions in all sports, particularly those in youth sports in which collisions are inherent. Without proper education as well as the implementation of effective risk management strategies multiple concussions, resulting in traumatic brain injuries or death, will continue to occur in young athletes.

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